UNIVERSITY AND EDUCATIONAL NEWS

The General Education Board and the Carnegie Corporation have jointly promised $100,000 to the Medical College of the University of Georgia, to be paid at the rate of $20,000 a year for the next five years on condition that a like amount each year is raised from other sources.

Professor C. J. Tilden, who has been director of the highway and highway transport education committee, in Washington, D. C., since December, 1920, has returned to Yale University to resume his work as professor of engineering mechanics.

Dr. Frederick H. Falls, of Chicago, has been appointed head of the department of gynecology and obstetrics of the State University of the Iowa College of Medicine.

Dr. T. L. Patterson, formerly of the physiologic department of the State University of Iowa, has been appointed professor and director of the department of physiology at the Detroit College of Medicine and Surgery.

D. Walter Munn has resigned his position of professor of engineering and head of the engineering department at the Royal Military College to become professor of mechanical engineering at the Nova Scotia Technical College, Halifax, N. S.

DISCUSSION AND CORRESPONDENCE

POSITIVE RAY ANALYSIS OF ZINC

With the apparatus previously used in the analysis of lithium and magnesium,[1] which will be described fully in the *Physical Review* for December, I find that the element zinc is a mixture of four isotopes, separated by two units in atomic weight. Although slight variations were observed in the relative intensities of the components, they are approximately given by the ratios 6 : 7 : 10 : 1, the heaviest being much weaker than the three lightest. The measurements in themselves do not give the values of the atomic weights with an accuracy of one unit, but since the separation in each case is exactly two units, and all other elements hitherto analyzed have integral atomic weights, with oxygen = 16 as a basis; we may assume that the zinc components are also integral. In this case the only values possible are the atomic weights 63, 65, 67, and 69, since these values with the above intensity ratios give a mean atomic weight of 65.5 and a displacement of the group one unit either way would make the mean differ by a whole integer from the accurately determined chemical atomic weight 65.4.

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THE REDISCOVERY AND VALIDITY OF ARCA LITHODOMUS SOWERBY

Nearly a century ago, in 1827–1830, Mr. H. Cuming made an extensive voyage along the western coast of South America collecting natural history specimens. The shells obtained by Cuming were described by Broderip and Sowerby. Among the Noah's Ark shells was a most curious species, named by Sowerby *Byssoarca lithodomus*[1] and figured by Reeve.[2] The shell was cuneiform, very finely ribbed, and covered with beautifully imbricated scales. It measured 3.5 inches in length and 1 in height. It was found by Cuming at Monte Cristi, Ecuador, about Lat. 1° South.

In 1840, Gray established for this singular *Arca* the section *Litharca,* which, in 1887, Fisher recognized as a section of the subgenus *Barbatia.* Dr. Dall, in 1898[3] thought the species invalid, and that the type was probably a shell of *Arca candida* that had grown in a *Lithodomus* burrow. But in his Peruvian catalogue, 1910, he listed the species, referring it back to Cuming's shell and placing it in the subgenus *Barbatia.*

Mr. Axel Olsson, while at Bucaru, Los Santos Province, on the western boundary of Panama Bay, in 1921, was so fortunate as to find a single valve which is the sole ex-

[1] Science, December 10, 1920; April 15, 1921.

[1] *Proc. Zool. Soc. London,* p. 16, 1833.
[2] Conch. Icon., *Area,* pl. 12, f. 76, 1844.
[3] *Trans. Wagner Inst. Sci.,* 3, pt. 4, p. 615.

ample ever found since Cuming collected his shell on the coast of Ecuador. Mr. Olsson's specimen is younger and smaller than the type, but is undoubtedly a valve of this very striking and rare species.

An examination of this shell proves that *Arca lithodomus* is not an *Arca (Barbatia) candida* of abnormal type, for it is clearly an undistorted specimen. Moreover, it is not a member of the subgenus *Barbatia*. Dr. Pearl Sheldon, the *Arca* expert, pronounces it a true Ark. Therefore, the rediscovery by Mr. Olsson, in Panama, of Cuming's Ecuadorean shell proves (1) that *Arca lithodomus* Sowerby is a valid species; (2) that the shell belongs to *Arca, sensu stricto;* (3) that the section *Litharca* Gray is unnecessary; (4) the range of the species is extended from about Lat. 1° South to approximately Lat. 7° 30′ North.

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THE GEOGRAPHICAL DISTRIBUTION OF HYBRIDS

IN a former number of this journal, Professor Fernald has done me the honor of stating that he is glad to have my confirmation of his "thesis" in regard to the geographical distribution of hybrids between natural species. As my statement was merely a brief summary of the views of the eminent Austrian systematic botanist, Kerner von Marilaun, Professor Fernald does me undeserved honor, and at the same time is unfortunately guilty of an anachronism. Kerner's views on hybrids were known to the world some time before Professor Fernald's star arose on the horizon.

I think I made it clear in my former statement, that according to Kerner, natural hybrids may occur not only within the range of the parent species, but *also beyond the range of one or both of them.* The situation indicated by the words in italics is clearly not in accord with the tenor of Professor Fernald's biting criticisms of the recent work of Brainerd Peitersen on the blackberries of New England. He repeatedly condemns these authors for entertaining the heterodox idea that a hybrid can occur beyond the geographic range of one of its parent species. In this attitude my colleague is obviously not in harmony with Kerner. It may be emphasized that Kerner's views possess a peculiar authority, not only because he devoted himself especially to the study of hybrids in nature, but also because he was fortunate enough to live in a region where the Pontic, Mediterranean, and Baltic floras overlap.

I am loath to attribute to my colleague the intentionally ambiguous language of an oracle, or the "weasel words" of the aspiring politician. His statements, however, appear to keep the word of promise to the ear, while breaking it to the hope, as in that Shakespearian tragedy where a forest undergoes an interesting geographic migration, not due to the mineral characteristics of the substratum.

E. C. JEFFREY

THE RAY SOCIETY

ALL interested in natural history are familiar with the publications of the Ray Society. Since its establishment over three quarters of a century ago this society has published annually one or more volumes in the biological sciences. Its object is to issue works which from the expense of illustration or other causes could not profitably be brought out by an ordinary publisher. In this way have appeared Agassiz's four volumes of Bibliography, Darwin's "Cirripedia," Allman's "Tubularian Hydroids" and "Freshwater Polyzoa," Alder and Hancock's "Nudibranches," West's "Desmids," Cash and Wailes's "Rhizopods and Heliozoa," Groves and Bullock-Webster's "Charophyta," and Lucas's "Orthoptera."

The annual subscription to the society is at present one guinea, in return for which the subscriber receives the annual volumes and has the privilege of purchasing, at a reduction from the published price, one copy each of any of the society's works already issued and remaining in stock. Subscribers for 1921 will receive for that year one of the